

2.5

INCH



4.8, 6.5 & 10 GB

DK209 Series

- ◆ 6.15 - 6.29 GBits / in²
- ◆ 6.49 GB in a 9.5 mm package & 10 GB in a 12.7 mm high package for maximum capacity slimline notebooks
- ◆ GMR head and MEEPRML read channel technology
- ◆ 32-bit RISC microprocessor, Shock Sensor, S.M.A.R.T.
- ◆ ATA-4 interface with adaptive 512 kB cache
- ◆ Load / unload mechanism

SuperH™
RISC engine

HITACHI



DK209 Series 2.5-inch ATA-4 Hard Disk Drives

Model		DK239A-48	DK239A-65	DK229A-10
Performance Specifications				
Total Capacity	Formatted	4.87 GB	6.49 GB	10 GB
	Per Sector	512 Bytes		
Number of Cylinders		11,141		
Number of Disks		2 (Thin Film)		3 (Thin Film)
Number of Heads		3 (Giant Magneto Resistive)	4 (Giant Magneto Resistive)	6 (Giant Magneto Resistive)
Seek Time (Nominal)	Average	12 ms		
	Maximum	24 ms		
	Minimum	3 ms		
Average Latency		7.1 ms		
Rotational Speed		4,200 rpm		
Read Technology		MEEPRML ID - Less Format		
Internal Transfer Rate		10.0 - 16.3 MB/s		10.3 - 16.6 MB/s
Areal Density		6.15 GBits/in ²		6.29 GBits/in ²
Recording Density		315,300 bpi		323,000 bpi
Track Density		19,500 tpi		
Interface		ATA-4		
Interface Transfer Rate		16.6 MB/s max. (PIO Mode 4, DMA Mode 2) / 33.3 MB/s (Ultra DMA 2)		
Data Buffer		512 kB (R/W Segmented Cache)		

Physical Specifications

Dimensions	Height		9.5 mm	12.7 mm
	Width		70.0 mm	70.0 mm
	Depth		100.0 mm	100.0 mm
Weight			99 g	130 g
Power Requirements +5V±5%	Seek		0.42 A (typ.)	0.43 A (typ.)
	Spin-up		0.9 A (typ.)	0.9 A (typ.)
	Idle		0.15 A (typ.)	0.16 A (typ.)
	Sleep		0.02 A (typ.)	0.02 A (typ.)
	R/W		0.41 A (typ.)	0.42 A (typ.)
	Stand-by		0.05 A (typ.)	0.05 A (typ.)
	Low Power Active		0.33 A (typ.)	0.34 A (typ.)
Power Consumption	Idle		0.75 W	0.80 W
Energy Consumption Rate			0.00012 W/MB	0.000080 W/MB
Environmental Conditions	Temperature	Operating	5 to 55°C (41 to 131°F)	
		Non-Operating	- 40 to 70°C (- 40 to 158°F)	
	Relative Humidity	Operating	5 to 90%	
		Non-Operating	5 to 90%	
		Max. Wet Bulb	29°C (84.2°F) (non-condensing)	
	Shock	Operating	150 G or less (2 ms half sine wave)	125 G or less (2 ms half sine wave)
		Non-Operating	600 G or less (2 ms half sine wave)	
	Vibration	Operating	0.5 G or less (22 - 400 Hz)	
Non-Operating		5 G or less (22 - 400 Hz)		
Acoustic Noise	Idle		27 dBA (typ.)	

Reliability

Preventive Maintenance	Not Required
Error Rate (Unrecoverable Errors)	less than 1 per 10 ¹³ bits read

HITACHI

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